REMARKS

Applicant respectfully requests the Patent Office to reconsider and allow the above-referenced application.

Please supply a corrected Filing Receipt for the above-referenced application to correct the spelling of the inventor's name to Yu Wang. A copy of the original Filing Receipt showing the desired changes in red ink is attached for your convenience.

Claim 1 has been amended to clarify the language. Attached is a marked-up version of the changes being made by the current amendment. No new matter is added.

Claims 1-10 stand rejected under 35 USC 102(b) as allegedly being anticipated by Simon. This contention, however, is respectfully traversed because the cited Simon teaches an entirely different structure and thus fails to teach features of Claims 1-10.

Claim 1 as originally filed is fully supported by FIGS. 16A, 16C, and 19A and the relevant description in the specification of this application. In the exemplary implementation illustrated in FIG. 16A, a light-filtering channel is formed by the element 1610. FIG. 16B illustrates an array of such light-filtering channels.

The Office Action on pages 2 and 3 contends that Simon teaches an array of light-filtering channels formed penultimately from left to right in FIG. 6 by transparent electrodes 90 having an input surface 80 and an output surface 92, and a light-conducting channel formed of a transparent dielectric material having a first surface which is substantially reflective (80) and a second surface (92). This is incorrect in part because the surface 80 in Simon by its design cannot be "substantially reflective" due to the fact that the reflection by the surface 80 would block light from entering the device and thus prevent output of light at surface 92. Such reflection would defeat the intended purpose of the Simon's device shown in FIG. 6.

In another aspect, the above contention of the Office Action incorrectly suggests that the input and output surfaces (80 and 92) of the array of light-filtering channels are the same as the first and second surfaces (80 and 92) of the light-conducting channel, respectively. Claim 1, in contrast, recites the input and output surfaces of the array to be different from the first and second surfaces of each light-conducting channel where the input surface receives input light and the first surface (substantially reflective) and the second surface (formed with reflective optical filters) are to reflect and

filter the input light to produce the output light at the output surface. Hence, the Office Action fails in this aspect to show that Simon teaches the features recited in Claim 1.

Thirdly, the Office Action on page 3 errs by contending that the first and second surfaces 80 and 92 are substantially parallel to said light-conducting channel as illustrated in FIG. 6. Simon does not so disclose in FIG. 6. As discussed above, the Office Action contends Simon teaches light-filtering channels directed from the surface 80 on the left to the surface 92 on the right through the transparent electrodes 90 (page 2). Under this contention, the light-conducting channel directs light from the surface 80 to the surface 92. This seems to be contrary to the assertion that the first and second surfaces 80 and 92 are substantially parallel to said light-conducting channel. Such self-contradicting contentions in the Office Action suggest that Simon does not provide the necessary disclosure for the contentions and the rejections may be based on incorrect reading of Simon.

In addition, Claim 1 recites "at least two optical filters sequentially formed on said second surface along said light-conducting channel to reflect said input light between said first and second surfaces so that said input light is sequentially reflected and filtered by said optical filters to

produce said output light." Simon fails to disclose such features. In Simon, the input light coupled to reach the transparent electrode 92 in FIG. 6 cannot be filtered again by another filter after passing through the LC layer 84. In a particular example, the light that passes through the first transparent electrode 90 on the top of the device 72 in FIG. 6 cannot be reflected "between said first and second surfaces so that said input light is sequentially reflected and filtered by said optical filters to produce said output light." Hence, Simon fails to disclose these features of Claim 1.

Furthermore, contrary to the assertion on page 3 of the Office Action, nothing in Simon discloses thin-film transistors in the device 72 in FIG. 6. Column 13, lines 4-14 in Simon merely describes applying control voltage to the LC layer 18 and fails to teach the specific two-thin-film-transistor structure of each light-filtering channel recited in Claim 1.

Therefore, the Office Action fails to make a prima facie showing that Simon teaches each feature recited in Claim 1 under 35 USC 102(b) and thus the rejections are improper. Applicant respectfully requests withdrawal of the rejections.
Accordingly, Claim 1 is distinctly patentable over Simon.
Amendment to Claim 1 clarifies the language by emphasizing each light-conducting channel is "to direct light from said input

surface to said output surface." Claims 2-5 are patentable due to their dependence on Claim 1 as well on their own merits.

Claim 6 is patentable under 35 USC over Simon because Simon fails to show the features recited. For example, Claim 6 recites that "said transparent plates are stacked over one another so that a reflecting surface of one transparent plate faces a filtering surface of an adjacent transparent plate to form a two-dimensional array of light channels." Nothing in Simone shows or suggests these and other features of Claim 6. Accordingly, Claims 7-10 are patentable due to their dependence on Claim 6 as well on their own merits.

In summary, Claims 1-10 under consideration are distinctly different form and thus are patentable over Simon. Applicant respectfully submits that the rejections be withdrawn and Claims 1-10 be allowed.

No fee is believed to be due for filing this response. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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Version with markings to show changes made

In the claims:

Claim 1 has been amended as follows:

1. (Amended) A device, comprising an array of light-filtering channels having an input surface from which said light-filtering channels receive input light and an output surface from which said light-filtering channels export output light, wherein each light-filtering channel comprises:

a light-conducting channel formed of a transparent dielectric material to direct light from said input surface to said output surface, said light-conducting channel having a first surface which is substantially reflective and a second surface opposing said first surface, said first and second surfaces substantially parallel to said light-conducting channel; and

at least two optical filters sequentially formed on said second surface along said light-conducting channel to reflect said input light between said first and second surfaces so that said input light is sequentially reflected and filtered by said optical filters to produce said output light, wherein each optical filter includes at least one metal layer and an electro-optical dielectric layer contacting with each other to form a metal-dielectric interface which generates a surface plasmon wave in response to a p-polarized input light beam to transmit light at a selected wavelength within a bandwidth according to a control voltage from said metal layer to said dielectric layer and reflects light of other wavelengths; and

at least two thin-film transistors respectively formed on said optical filters to provide said control voltage to

control a refractive index of said dielectric layer and thereby said selected wavelength to change a color and a grey scale of said output light.